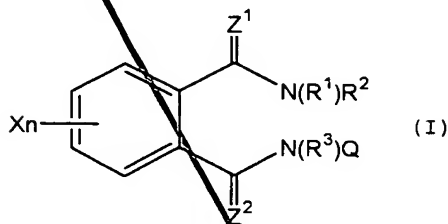


CLAIMS

1. A phthalamide derivative represented by the following general formula (I):



wherein R^1 , R^2 and R^3 , which may be same or different, represent hydrogen atom, C_3 - C_6 cycloalkyl group, halo C_3 - C_6 cycloalkyl group or $-A^1-(G)_r$ (in this formula, A^1 represents C_1 - C_8 alkylene group, C_3 - C_6 alkenylene group or C_3 - C_6 alkynylene group; G , which may be same or different, represents hydrogen atom, halogen atom, cyano group, nitro group, halo C_1 - C_6 alkyl group, C_3 - C_6 cycloalkyl group, halo C_3 - C_6 cycloalkyl group, C_1 - C_6 alkoxy carbonyl group, di(C_1 - C_6) alkoxyphosphoryl group in which the (C_1 - C_6) alkoxy groups may be same or different, di(C_1 - C_6) alkoxythiophosphoryl group in which the (C_1 - C_6) alkoxy groups may be same or different, diphenylphosphino group, diphenylphosphone group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1 - C_6 alkyl group, halo C_1 - C_6 alkyl group, C_1 - C_6 alkoxy group, halo C_1 - C_6 alkoxy group, C_1 - C_6 alkylthio group, halo C_1 - C_6 alkylthio group, C_1 - C_6 alkylsulfinyl group, halo C_1 - C_6 alkylsulfinyl group, C_1 - C_6 alkylsulfonyl group and halo C_1 - C_6

alkylsulfonyl group, heterocyclic group (as used herein, the term "heterocyclic group" means pyridyl group, pyridine-N-oxide group, pyrimidinyl group, furyl group, tetrahydrofuryl group, thienyl group, tetrahydrothienyl group, tetrahydropyranyl group, oxazolyl group, isoxazolyl group, oxadiazolyl group, thiazolyl group, isothiazolyl group, thiadiazolyl group, imidazolyl group, triazolyl group or pyrazolyl group), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -Z³-R⁴ (in this formula, Z³ represents -O-, -S-, -SO-, -SO₂-, -N(R⁵)- (in this formula, R⁵ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxy carbonyl group, substituted

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phenyl C₁-C₄ alkoxycarbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, C₁-C₆ alkylsulfonyl group or halo C₁-C₆ alkylsulfonyl group), -C(=O)- or -C(=NOR⁶)- (in this formula, R⁶ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, phenyl C₁-C₄ alkyl group, or substituted phenyl C₁-C₄ alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), and R⁴ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, halo C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy C₁-C₆ alkyl group, C₁-C₆ alkylthio C₁-C₆ alkyl group, formyl group, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆

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alkoxycarbonyl group, mono (C_1-C_6) alkylaminocarbonyl group, di(C_1-C_6) alkylaminocarbonyl group in which the (C_1-C_6) alkyl groups may be same or different, mono(C_1-C_6) alkylaminothiocarbonyl group, di(C_1-C_6) alkylaminothiocarbonyl group in which the (C_1-C_6) alkyl groups may be same or different, di(C_1-C_6) alkoxyphosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, di(C_1-C_6) alkoxythiophosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenyl C_1-C_4 alkyl group, substituted phenyl (C_1-C_4) alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or

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Chemical Abstracts

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different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group); and x represents an integer of 1 to 4); further, R^1 and R^2 may be taken conjointly to form 4- to 7-membered rings which may be intercepted by 1 to 3, same or different oxygen atom, sulfur atom or nitrogen atom;

X, which may be same or different, represents halogen atom, cyano group, nitro group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group,

halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ [in this formula, A² represents -O-, -S-, -SO-, -SO₂-, -NR⁸- (in this formula R⁸ represents hydrogen atom, C₁-C₆ alkyl-carbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy-carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxy-carbonyl group or substituted phenyl C₁-C₄ alkoxy-carbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), -C(=O)-, -C(=NOR⁶)- (in this formula, R⁶ is as defined above), C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and

(1) in cases where A² represents -O-, -S-, -SO-,

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~~-SO₂- or -NR⁸- (in this formula, R⁸ is as defined above), R represents hydrogen atom, halo C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkenyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A³-R⁹ (in this formula, A³ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₃-C₆ alkenylene group, halo C₃-C₆ alkenylene group, C₃-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R⁹ represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxycarbonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen~~

atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁴-R¹⁰ (in this formula, A⁴ represents -O-, -S-, -SO-, -SO₂- or -C(=O)-; and R¹⁰ represents C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group));

(2) in cases where A² represents -C(=O)- or

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$-C(=NOR^6)-$ (in this formula, R^6 is as defined above), R^7 represents hydrogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_2-C_6 alkenyl group, halo C_2-C_6 alkenyl group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, mono(C_1-C_6) alkylamino group, di(C_1-C_6) alkylamino group in which the (C_1-C_6) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenylamino group, substituted phenylamino group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl

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group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group; and

(3) in cases where A^2 represents C_1-C_6 alkylene group, halo C_1-C_6 alkylene group, C_2-C_6 alkenylene group, halo C_2-C_6 alkenylene group, C_2-C_6 alkynylene group or halo C_3-C_6 alkynylene group, R^7 represents hydrogen atom, halogen atom, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxycarbonyl group, tri(C_1-C_6) alkylsilyl group in which the (C_1-C_6) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkyl-

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sulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁵-R¹¹ (in this formula, A⁵ represents -O-, -S-, -SO- or -SO₂-; and R¹¹ represents C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁶-R¹² (in this formula, A⁶ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R¹² represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group,

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126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000

~~C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenoxy group, substituted phenoxy group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenylthio group, substituted phenylthio group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different~~

substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group))];

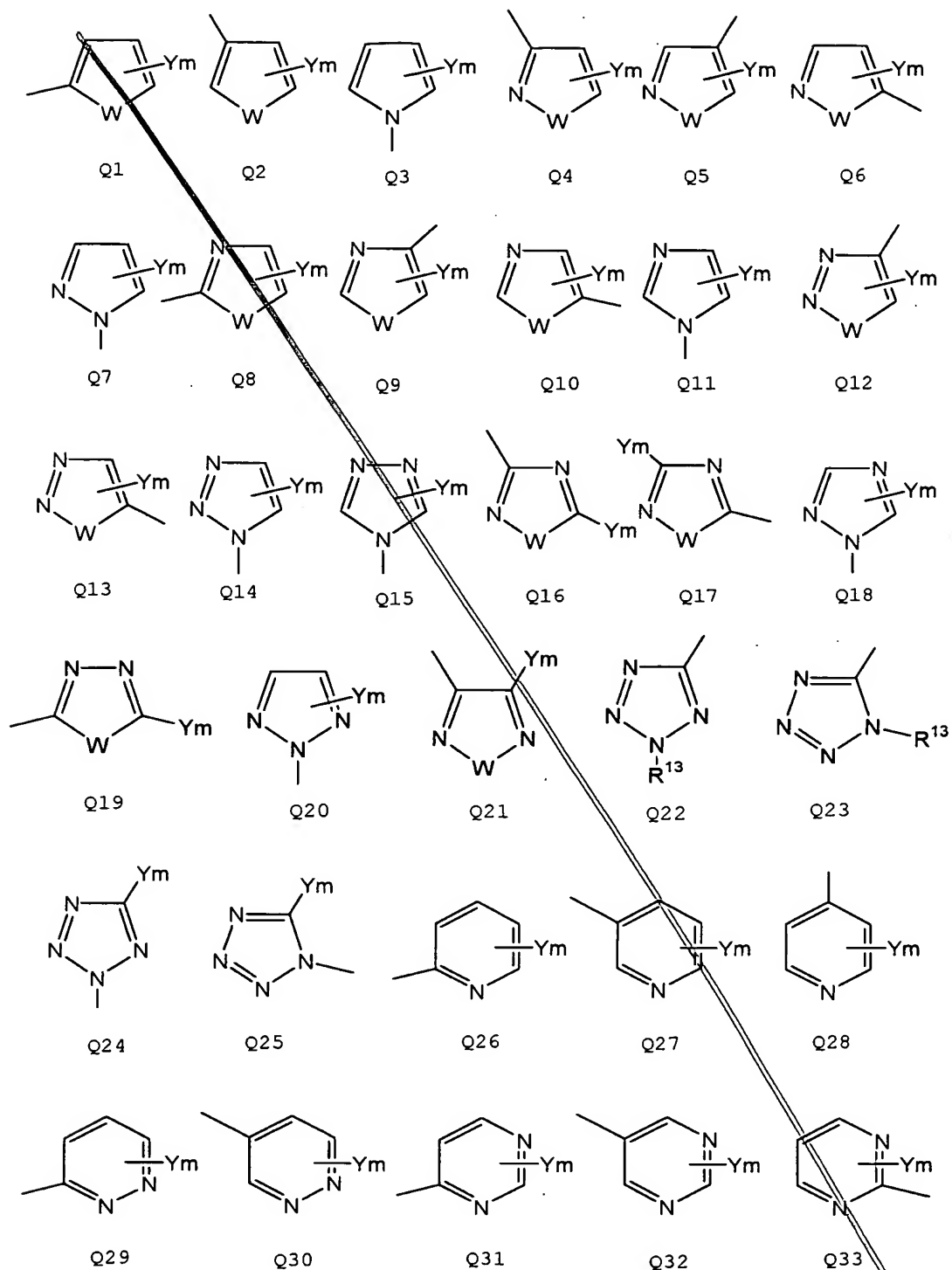
n represents an integer of 0 to 4; further, X may be taken conjointly with the adjacent carbon atom on the phenyl ring to form a fused ring (as used herein, the term fused ring means naphthalene, tetrahydronaphthalene, indene, indane, quinoline, quinazoline, chroman, isochroman, indole, indoline, benzodioxane, benzodioxole, benzofuran, dihydrobenzofuran, benzothiophene, dihydrobenzothiophene, benzoxazole, benzothiazole, benzimidazole or indazole), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio

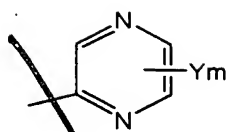
group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group;

Q represents an N-, S- or O-containing, optionally substituted, heterocyclic group or fused heterocyclic group, selected from the group consisting of the following formulas Q1 to Q60;

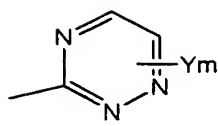
C1
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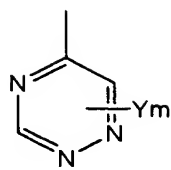




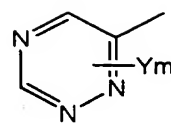
Q34



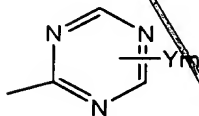
Q35



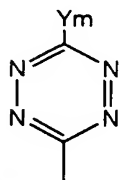
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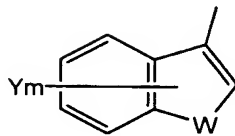
Q37



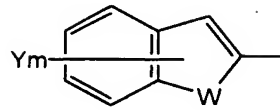
Q38



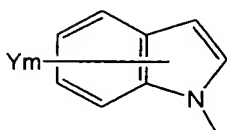
Q39



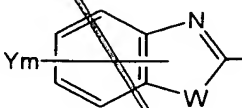
Q40



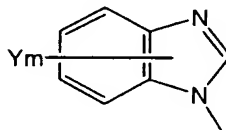
Q41



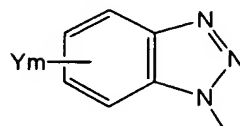
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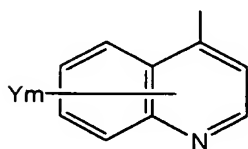
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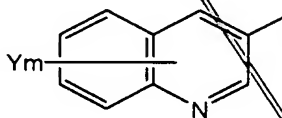
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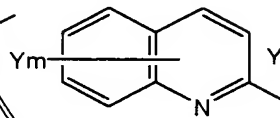
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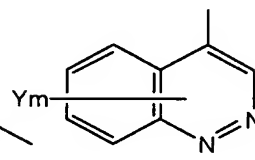
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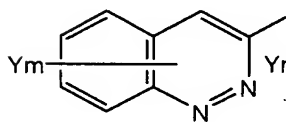
Q47



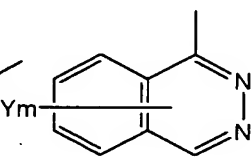
Q48



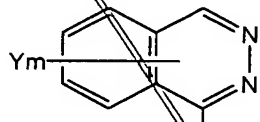
Q49



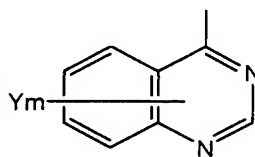
Q50



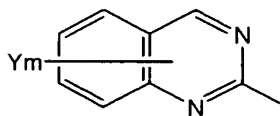
Q51



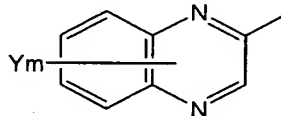
Q52



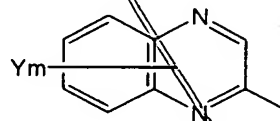
Q53



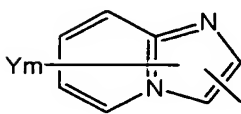
Q54



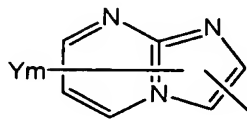
Q55



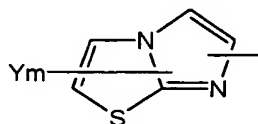
Q56



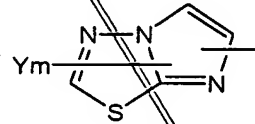
Q57



Q58



Q59



Q60

C Cont

Chemical Abstracts

in these formulas, Y, which may be same or different, represents halogen atom, cyano group, nitro group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ (in this formula, A² and R⁷ are as defined above); m represents an integer of 0 to 6; R¹³ in the formula Q22 and Q23 represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, halo C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy C₁-C₆ alkyl group, halo C₁-C₆ alkoxy C₁-C₆ alkyl group, C₁-C₆ alkylthio C₁-C₆ alkyl group, halo C₁-C₆ alkylthio C₁-C₆

alkyl group, C₁-C₆ alkylsulfinyl C₁-C₆ alkyl group, halo C₁-C₆ alkylsulfinyl C₁-C₆ alkyl group, C₁-C₆ alkylsulfonyl C₁-C₆ alkyl group, halo C₁-C₆ alkylsulfonyl C₁-C₆ alkyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkyl group, substituted phenyl C₁-C₄ alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenylcarbonyl group, or substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group,

~~C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group);~~

~~alternatively, Y may be taken conjointly with adjacent carbon atom on the ring to form a fused ring (the fused ring is as defined above), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group~~

and halo C₁-C₆ alkylsulfonyl group;

W represents O, S or N-R¹³ (in this formula, R¹³ is as defined above); and Z¹ and Z² represent oxygen atom or sulfur atom;

provided that when X, R¹ and R³ simultaneously represent hydrogen atom, Z¹ and Z² simultaneously represent oxygen atom, Q represents Q27, and Y is a chlorine atom of 2-position, then R² is not 1,2,2-trimethylpropyl group.

2. A phthalamide derivative according to Claim 1, wherein R¹, R² and R³, which may be same or different, represent hydrogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group or -A¹-(G)_r (in this formula, A¹ represents C₁-C₃ alkylene group, C₃-C₆ alkenylene group or C₃-C₆ alkynylene group; G, which may be same or different, represents hydrogen atom, halogen atom, cyano group, nitro group, halo C₁-C₆ alkyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy carbonyl group, di(C₁-C₆) alkoxyphosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxythiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, diphenylphosphino group, diphenylphosphono group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio

group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (as used herein, the term "heterocyclic group" means pyridyl group, pyridine-N-oxide group, pyrimidinyl group, furyl group, tetrahydrofuryl group, thienyl group, tetrahydrothienyl group, tetrahydropyranyl group, oxazolyl group, isoxazolyl group, oxadiazolyl group, thiazolyl group, isothiazolyl group, thiadiazolyl group, imidazolyl group, triazolyl group or pyrazolyl group), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -Z³-R⁴ (in this formula, Z³ represents -O-, -S-, -SO-, -SO₂-, -N(R⁵)- (in this formula, R⁵ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group,

C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenyl C_1-C_4 alkoxy carbonyl group, substituted phenyl C_1-C_4 alkoxy carbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, C_1-C_6 alkylsulfonyl group or halo C_1-C_6 alkylsulfonyl group), $-C(=O)-$ or $-C(=NOR^6)-$ (in this formula, R^6 represents hydrogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_3-C_6 alkenyl group, halo C_3-C_6 alkenyl group, C_3-C_6 alkynyl group, C_3-C_6 cycloalkyl group, phenyl C_1-C_4 alkyl group, or substituted phenyl C_1-C_4 alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group), and R^4 represents hydrogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_3-C_6 alkenyl group, halo C_3-C_6 alkenyl group, C_3-C_6 alkynyl group, halo C_3-C_6 alkynyl group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy C_1-C_6 alkyl group, C_1-C_6 alkylthio C_1-C_6 alkyl

group, formyl group, C_1-C_6 alkylcarbonyl group, halo C_1-C_6 alkylcarbonyl group, C_1-C_6 alkoxy carbonyl group, mono(C_1-C_6) alkylaminocarbonyl group, di(C_1-C_6) alkylamino carbonyl group in which the (C_1-C_6) alkyl groups may be same or different, mono(C_1-C_6) alkylaminothiocarbonyl group, di(C_1-C_6) alkylaminothiocarbonyl group in which the (C_1-C_6) alkyl groups may be same or different, di(C_1-C_6) alkoxyphosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, di(C_1-C_6) alkoxythiophosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenyl C_1-C_4 alkyl group, substituted phenyl (C_1-C_4) alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group

(the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group); and r represents an integer of 1 to 4); further, R^1 and R^2 may be taken conjointly to form 4- to 7-membered rings which may be intercepted by 1 to 3, same or different oxygen atom, sulfur atom or nitrogen atom;

X , which may be same or different, represents halogen atom, cyano group, nitro group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6

alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ [in this formula, A² represents -O-, -S-, -SO-, -SO₂-, -NR⁸- (in this formula R⁸ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxycarbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxycarbonyl group or substituted phenyl C₁-C₄ alkoxycarbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), -C(=O)-, -C(=NOR⁶)- (in this formula, R⁶ is as defined above), C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and

(1) in cases where A^2 represents $-O-$, $-S-$, $-SO-$, $-SO_2-$ or $-NR^8-$ (in this formula, R^8 is as defined above), R^7 represents hydrogen atom, halo C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkenyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, or $-A^3-R^9$ (in this formula, A^3 represents C_1-C_6 alkylene group, halo C_1-C_6 alkylene group, C_3-C_6 alkenylene group, halo C_3-C_6 alkenylene group, C_3-C_6 alkynylene group or halo C_3-C_6 alkynylene group; and R^9 represents hydrogen atom, halogen atom, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxycarbonyl group, phenyl group, substituted phenyl group having at least one, same or different substit-

uents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁴-R¹⁰ (in this formula, A⁴ represents -O-, -S-, -SO-, -SO₂- or -C(=O)-; and R¹⁰ represents C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group));

(2) in cases where A^2 represents $-C(=O)-$ or $-C(=NOR^6)-$ (in this formula, R^6 is as defined above), R^7 represents hydrogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_2-C_6 alkenyl group, halo C_2-C_6 alkenyl group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, mono(C_1-C_6) alkylamino group, di(C_1-C_6) alkylamino group in which the (C_1-C_6) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenylamino group, substituted phenylamino group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consist-

ing of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group; and

(3) in cases where A^2 represents C_1-C_6 alkylene group, halo C_1-C_6 alkylene group, C_2-C_6 alkenylene group, halo C_2-C_6 alkenylene group, C_2-C_6 alkynylene group or halo C_3-C_6 alkynylene group, R^7 represents hydrogen atom, halogen atom, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy carbonyl group, tri(C_1-C_6) alkylsilyl group in which the (C_1-C_6) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio

group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁵-R¹¹ (in this formula, A⁵ represents -O-, -S-, -SO- or -SO₂-; and R¹¹ represents C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁶-R¹² (in this formula, A⁶ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R¹² represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy

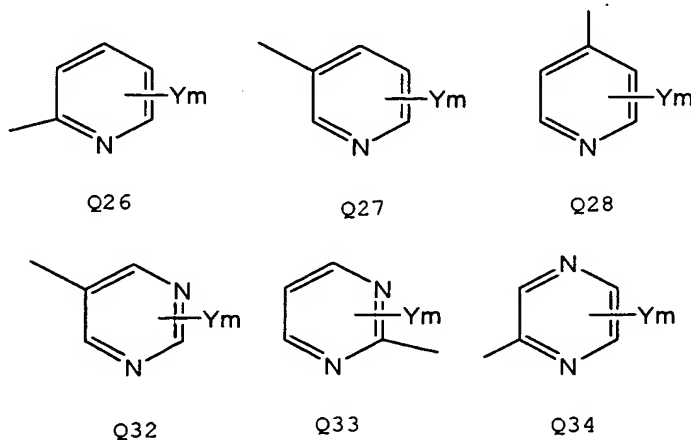
group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenoxy group, substituted phenoxy group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenylthio group, substituted phenylthio group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as

defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group)]];

n represents an integer of 0 to 4; further, X may be taken conjointly with the adjacent carbon atom on the phenyl ring to form a fused ring (as used herein, the term fused ring means naphthalene, tetrahydronaphthalene, indene, indane, quinoline, quinazoline, chroman, isochroman, indole, indoline, benzodioxane, benzodioxole, benzofuran, dihydrobenzofuran, benzothiophene, dihydrobenzothiophene, benzoxazole, benzothiazole, benzimidazole or indazole), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group, halo C_1-C_6 alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6

alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group;

Q is an optionally substituted, heterocyclic or fused heterocyclic group represented by one of the following formulas Q26 to Q28 and Q32 to Q34;



(in these formulas, Y, which may be same or different, represents halogen atom, cyano group, nitro group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substit-

uents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ (in this formula, A² and R⁷ are as defined above); m represents an integer of 0 to 4;

alternatively, Y may be taken conjointly with adjacent carbon atom on the ring to form a fused ring (the fused ring is as defined above), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl

group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group; and

Z¹ and Z² represent oxygen atom or sulfur atom.

3. A phthalamide derivative according to Claim 2, wherein R¹, R² and R³, which may be same or different, represent hydrogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group or -A¹-(G)_r (in this formula, A¹ represents C₁-C₆ alkylene group, C₃-C₆ alkenylene group or C₃-C₆ alkynylene group; G, which may be same or different, represents hydrogen atom, halogen atom, cyano group, nitro group, halo C₁-C₆ alkyl group, C₃-C₆

cycloalkyl group, halo C₁-C₆ cycloalkyl group, C₁-C₆ alkoxy carbonyl group, di(C₁-C₆) alkoxy phosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxy thiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, diphenylphosphino group, diphenylphosphono group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (as used herein, the term "heterocyclic group" means pyridyl group, pyridine-N-oxide group, pyrimidinyl group, furyl group, tetrahydrofuryl group, thienyl group, tetrahydrothienyl group, tetrahydropyranyl group, oxazolyl group, isoxazolyl group, oxadiazolyl group, thiazolyl group, isothiazolyl group, thiadiazolyl group, imidazolyl group, triazolyl group or pyrazolyl group), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆

alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -Z³-R⁴ (in this formula, Z³ represents -O-, -S-, -SO-, -SO₂-, -N(R⁵)- (in this formula, R⁵ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxy carbonyl group, substituted phenyl C₁-C₄ alkoxy carbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group or halo C₁-C₆ alkylsulfonyl group), -C(=O)- or -C(=NOR⁶)- (in this formula, R⁶ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, phenyl C₁-C₄ alkyl group, or substituted phenyl C₁-C₄ alkyl group having, on the ring thereof, at least one, same or different

substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group), and R^4 represents hydrogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_3-C_6 alkenyl group, halo C_3-C_6 alkenyl group, C_3-C_6 alkynyl group, halo C_3-C_6 alkynyl group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy C_1-C_6 alkyl group, C_1-C_6 alkylthio C_1-C_6 alkyl group, formyl group, C_1-C_6 alkylcarbonyl group, halo C_1-C_6 alkylcarbonyl group, C_1-C_6 alkoxy-carbonyl group, mono (C_1-C_6) alkylaminocarbonyl group, di(C_1-C_6) alkylaminocarbonyl group in which the (C_1-C_6) alkyl groups may be same or different, mono(C_1-C_6) alkylaminothiocarbonyl group, di(C_1-C_6) alkylaminothiocarbonyl group in which the (C_1-C_6) alkyl groups may be same or different, di(C_1-C_6) alkoxyphosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, di(C_1-C_6) alkoxythiophosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkyl-

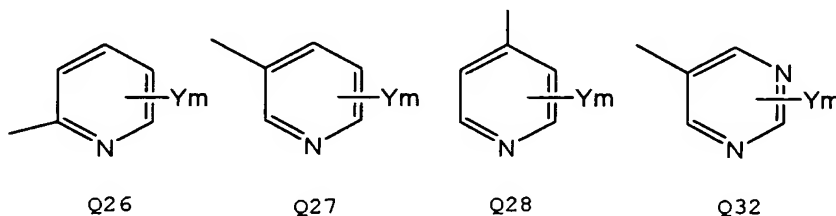
sulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenyl C_1-C_4 alkyl group, substituted phenyl (C_1-C_4) alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group); and r represents an integer of 1 to 4); further, R^1 and R^2 may be taken conjointly to form 4- to 7-membered rings which may be intercepted by 1 to 3, same or different oxygen atom, sulfur atom or nitrogen atom;

X , which may be same or different, represents halogen atom, cyano group, nitro group, amino group, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio

group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, mono(C₁-C₆) alkylamino group, di(C₁-C₆) alkylamino group in which the (C₁-C₆) alkyl groups may be same or different, C₁-C₆ alkylcarbonylamino group, halo C₁-C₆ alkylcarbonylamino group, C₁-C₆ alkoxy carbonyl group, or tri(C₁-C₆) alkylsilylethynyl group in which the (C₁-C₆) alkyl groups may be same or different; and n represents an integer of 0 to 4; further, X may be taken conjointly with the adjacent carbon atom on the phenyl ring to form a fused ring (as used herein, the term fused ring means naphthalene, tetrahydronaphthalene, indene, indane, quinoline, quinazoline, chroman, isochroman, indole, indoline, benzodioxane, benzodioxole, benzofuran, dihydrobenzofuran, benzothiophene, dihydrobenzothiophene, benzoxazole, benzothiazole, benzimidazole or indazole), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆

alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group;

Q represents an optionally substituted, heterocyclic or fused heterocyclic group, having one of the following formulas Q26, Q27, Q28 or Q32:



(in these formulas, Y, which may be same or different, represents halogen atom, cyano group, nitro group, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, halo C₁-C₆ alkoxy halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo

C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group, halo C_1-C_6 alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenoxy group, substituted phenoxy group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group; and m represents an integer of 0 to 4;

alternatively, Y may be taken conjointly with

adjacent carbon atom on the ring to form a fused ring (the fused ring is as defined above), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group; and

Z¹ and Z² represent oxygen atom or sulfur

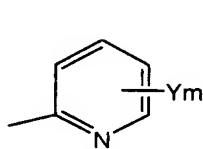
atom.

4. A heterocyclic amine derivative represented by the following general formula (IV'):

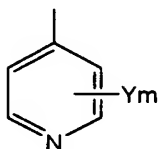


wherein:

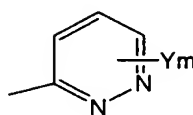
(1) in cases where Q' represents one of Q26, Q28-Q31 and Q33-Q39,



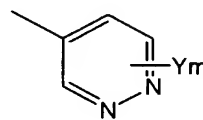
Q26



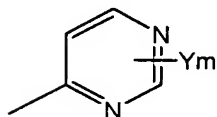
Q28



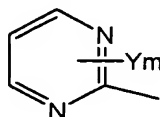
Q29



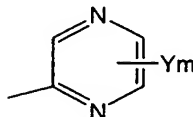
Q30



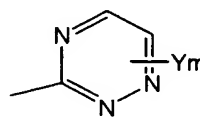
Q31



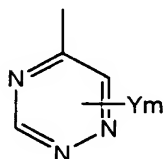
Q33



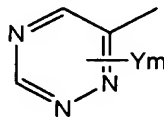
Q34



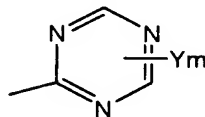
Q35



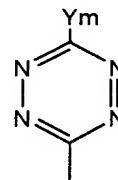
Q36



Q37



Q38



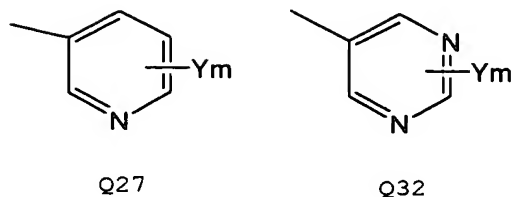
Q39

Y, which may be same or different, represents hydrogen atom, halogen atom, C_1 - C_6 alkyl group, halo C_1 - C_6 alkyl group, C_1 - C_6 alkoxy group, halo C_1 - C_6 alkoxy group, C_1 - C_6 alkylthio group, halo C_1 - C_6 alkylthio group, C_1 - C_6 alkylsulfinyl group, halo C_1 - C_6 alkylsulfinyl group, C_1 - C_6 alkylsulfonyl group or halo C_1 - C_6 alkylsulfonyl group, m represents an integer of 1 to 4, and at least one of Y, of which total number is m, is perfluoro C_2 - C_6 alkyl

group;

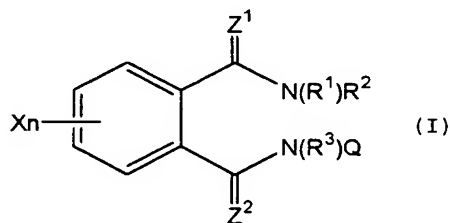
and

(2) in a case where Q' represents Q27 and Q32:



Y, which may be same or different, represents hydrogen atom, halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group or halo C₁-C₆ alkylsulfonyl group, m represents an integer of 1 to 4, and at least one of Y, of which total number is m, is perfluoro C₂-C₆ alkyl group, halo C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy halo C₁-C₆ alkoxy group or halo C₁-C₆ alkylthio group.

5. An agrohorticultural insecticide containing, as an active ingredient thereof, a phthalamide derivative represented by the following general formula (I):



wherein R¹, R² and R³, which may be same or different, represent hydrogen atom, C₃-C₆ cycloalkyl group, halo

C_3-C_6 cycloalkyl group or $-A^1-(G)_r$ (in this formula, A^1 represents C_1-C_6 alkylene group, C_3-C_6 alkenylene group or C_3-C_6 alkynylene group; G , which may be same or different, represents hydrogen atom, halogen atom, cyano group, nitro group, halo C_1-C_6 alkyl group, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy carbonyl group, di(C_1-C_6) alkoxyphosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, di(C_1-C_6) alkoxythiophosphoryl group in which the (C_1-C_6) alkoxy groups may be same or different, diphenylphosphino group, diphenylphosphono group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (as used herein, the term "heterocyclic group" means pyridyl group, pyridine-N-oxide group, pyrimidinyl group, furyl group, tetrahydrofuryl group, thienyl group, tetrahydrothienyl group, tetrahydropyranyl group, oxazolyl group, isoxazolyl group, oxadiazolyl group, thiazolyl group, isothiazolyl group, thiadiazolyl group, imidazolyl group, triazolyl group or pyrazolyl group), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or

different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -Z³-R⁴ (in this formula, Z³ represents -O-, -S-, -SO-, -SO₂-, -N(R⁵)- (in this formula, R⁵ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxycarbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxycarbonyl group, substituted phenyl C₁-C₄ alkoxycarbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, C₁-C₆ alkylsulfonyl group or halo C₁-C₆ alkylsulfonyl group), -C(=O)- or -C(=NOR⁶)- (in this formula, R⁶ represents hydrogen

atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, phenyl C₁-C₄ alkyl group, or substituted phenyl C₁-C₄ alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), and R⁴ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, halo C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy C₁-C₆ alkyl group, C₁-C₆ alkylthio C₁-C₆ alkyl group, formyl group, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, mono(C₁-C₆) alkylaminocarbonyl group, di(C₁-C₆) alkylaminocarbonyl group in which the (C₁-C₆) alkyl groups may be same or different, mono(C₁-C₆) alkylaminothiocarbonyl group, di(C₁-C₆) alkylaminothiocarbonyl group in which the (C₁-C₆) alkyl groups may be same or different, di(C₁-C₆) alkoxyphosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxythiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, phenyl group, substituted phenyl group having at least one, same or

different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenyl C_1-C_4 alkyl group, substituted phenyl (C_1-C_4) alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group); and r represents an integer of 1 to 4); further, R^1 and R^2 may be taken conjointly to form 4- to 7-membered rings which may be intercepted by 1 to 3, same or different oxygen atom, sulfur atom or nitrogen atom;

X, which may be same or different, represents halogen atom, cyano group, nitro group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ [in this formula, A² represents -O-, -S-, -SO-, -SO₂-, -NR⁸- (in this formula R⁸ represents hydrogen atom, C₁-C₆ alkyl-carbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy-carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆

alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxy carbonyl group or substituted phenyl C₁-C₄ alkoxy carbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), $-(=O)-$, $-C(=NOR^6)-$ (in this formula, R⁶ is as defined above), C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and

(1) in cases where A² represents $-O-$, $-S-$, $-SO-$, $-SO_2-$ or $-NR^8-$ (in this formula, R⁸ is as defined above), R⁷ represents hydrogen atom, halo C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkenyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as

defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A³-R⁹ (in this formula, A³ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₃-C₆ alkenylene group, halo C₃-C₆ alkenylene group, C₃-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R⁹ represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy carbonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁴-R¹⁰ (in this formula, A⁴ represents -O-, -S-, -SO-, -SO₂- or -C(=O)-; and R¹⁰ represents C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substit-

uents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group));

(2) in cases where A² represents -C(=O)- or -C(=NOR⁶)- (in this formula, R⁶ is as defined above), R⁷ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₂-C₆ alkenyl group, halo C₂-C₆ alkenyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, mono(C₁-C₆) alkylamino group, di(C₁-C₆) alkylamino group in which the (C₁-C₆) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy

group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenylamino group, substituted phenylamino group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group; and

(3) in cases where A² represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group, R⁷ represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxycarbonyl group, tri(C₁-C₆)

alkylsilyl group in which the (C₁-C₆) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁵-R¹¹ (in this formula, A⁵ represents -O-, -S-, -SO- or -SO₂-; and R¹¹ represents C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆

alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁶-R¹² (in this formula, A⁶ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R¹² represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenoxy group, substituted phenoxy group having at least one, same or

different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenylthio group, substituted phenylthio group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group))];

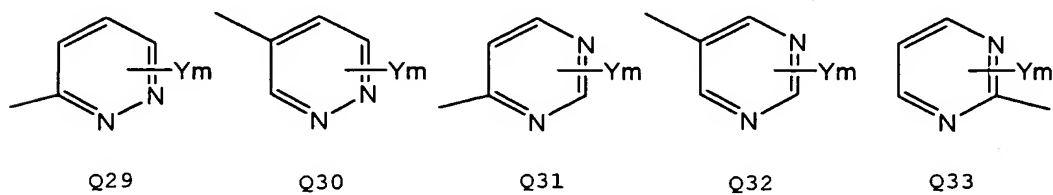
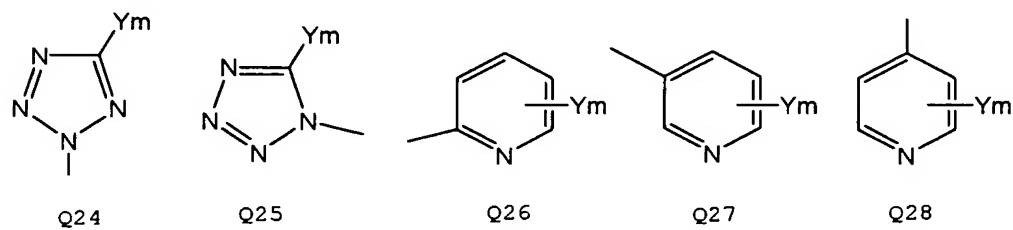
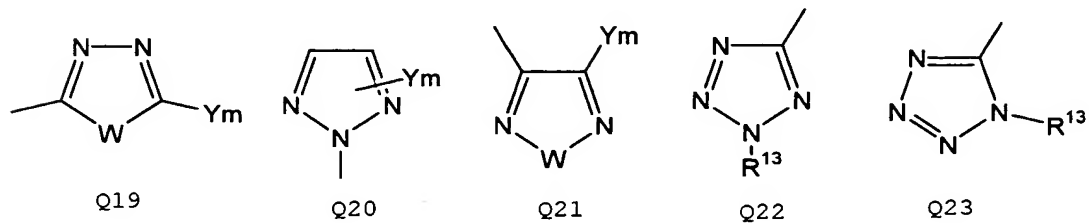
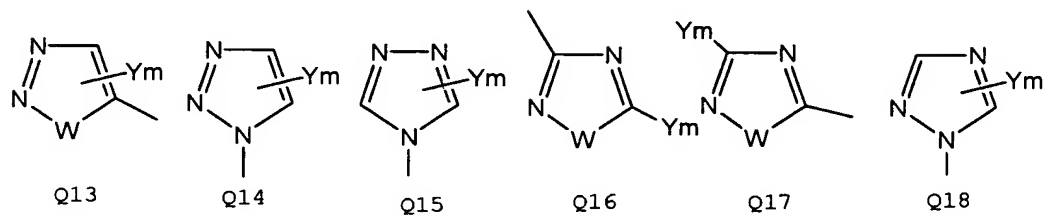
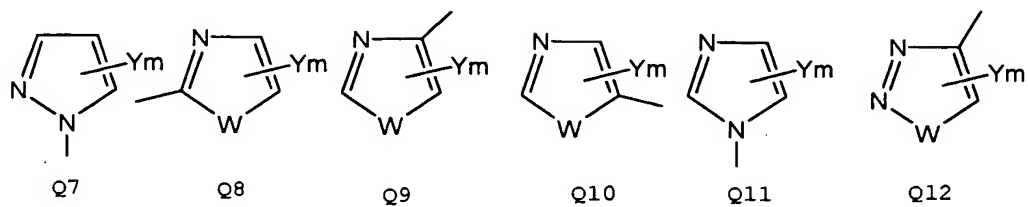
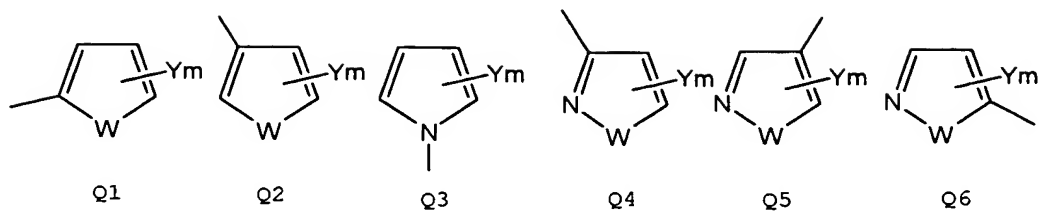
n represents an integer of 0 to 4; further, X may be taken conjointly with the adjacent carbon atom on the phenyl ring to form a fused ring (as used herein, the term fused ring means naphthalene,

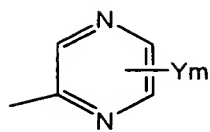
tetrahydronaphthalene, indene, indane, quinoline, quinazoline, chroman, isochroman, indole, indoline, benzodioxane, benzodioxole, benzofuran, dihydrobenzofuran, benzothiophene, dihydrobenzothiophene, benzoxazole, benzothiazole, benzimidazole or indazole), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group,

C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group;

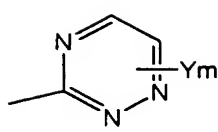
Q represents an N-, S- or O-containing, optionally substituted, heterocyclic group or fused heterocyclic group, selected from the group consisting of the following formulas Q1 to Q60;

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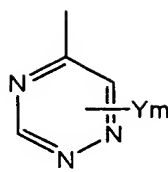




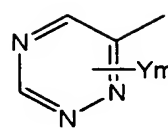
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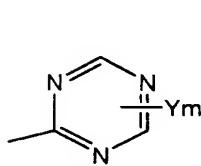
Q35



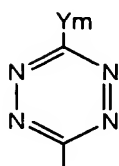
Q36



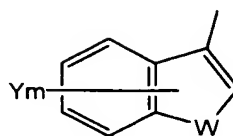
Q37



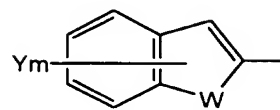
Q38



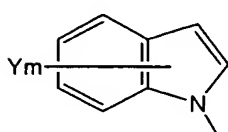
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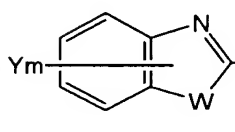
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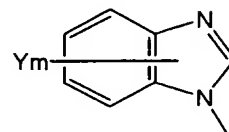
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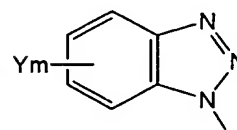
Q42



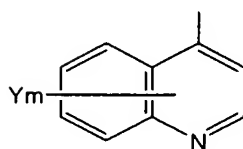
Q43



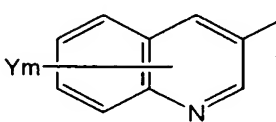
Q44



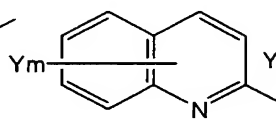
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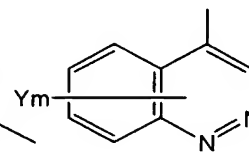
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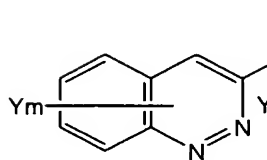
Q47



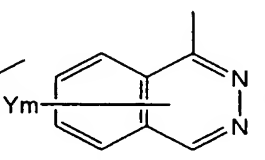
Q48



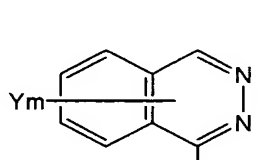
Q49



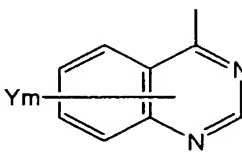
Q50



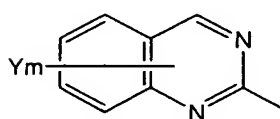
Q51



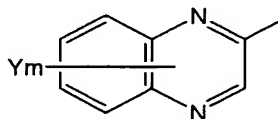
Q52



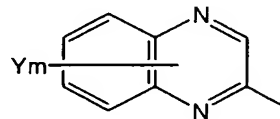
Q53



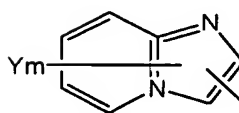
Q54



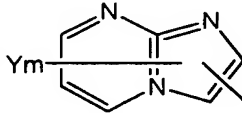
Q55



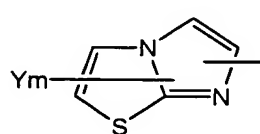
Q56



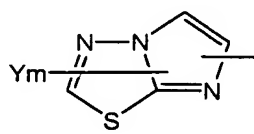
Q57



Q58



Q59



Q60

(in these formulas, Y, which may be same or different, represents halogen atom, cyano group, nitro group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ (in this formula, A² and R⁷ are as defined above); m represents an integer of 0 to 6; R¹³ in the formula Q22 and Q23 represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, halo C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy C₁-C₆ alkyl group, halo C₁-C₆ alkoxy C₁-C₆ alkyl group, C₁-C₆ alkylthio C₁-C₆ alkyl group, halo C₁-C₆ alkylthio C₁-C₆ alkyl

group, C₁-C₆ alkylsulfinyl C₁-C₆ alkyl group, halo C₁-C₆ alkylsulfinyl C₁-C₆ alkyl group, C₁-C₆ alkylsulfonyl C₁-C₆ alkyl group, halo C₁-C₆ alkylsulfonyl C₁-C₆ alkyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkyl group, substituted phenyl C₁-C₄ alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenylcarbonyl group, or substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆

alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group);

alternatively, Y may be taken conjointly with adjacent carbon atom on the ring to form a fused ring (the fused ring is as defined above), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group;

W represents O, S or N-R¹³ (in this formula, R¹³ is as defined above); and Z¹ and Z² represent oxygen atom or sulfur atom.

6. An agrihorticultural insecticide according to Claim 5, wherein R¹, R² and R³, which may be same or different, represent hydrogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group or -A¹ -(G)_r (in this formula, A¹ represents C₁-C₈ alkylene group, C₃-C₆ alkenylene group or C₃-C₆ alkynylene group; G, which may be same or different, represents hydrogen atom, halogen atom, cyano group, nitro group, halo C₁-C₆ alkyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxycarbonyl group, di(C₁-C₆) alkoxyphosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxythiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, diphenylphosphino group, diphenylphosphono group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (as used herein, the term "heterocyclic group" means pyridyl group, pyridine-N-oxide group, pyrimidinyl group, furyl group, tetrahydrofuryl group, thienyl group, tetra-

hydrothienyl group, tetrahydropyranyl group, oxazolyl group, isoxazolyl group, oxadiazolyl group, thiazolyl group, isothiazolyl group, thiadiazolyl group, imidazolyl group, triazolyl group or pyrazolyl group), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -Z³-R⁴ (in this formula, Z³ represents -O-, -S-, -SO-, -SO₂-, -N(R⁵)- (in this formula, R⁵ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxy carbonyl group, substituted phenyl C₁-C₄ alkoxy carbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy

group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, C₁-C₆ alkylsulfonyl group or halo C₁-C₆ alkylsulfonyl group), -C(=O)- or -C(=NOR⁶)- (in this formula, R⁶ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, phenyl C₁-C₄ alkyl group, or substituted phenyl C₁-C₄ alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), and R⁴ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, halo C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy C₁-C₆ alkyl group, C₁-C₆ alkylthio C₁-C₆ alkyl group, formyl group, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxycarbonyl group, mono (C₁-C₆) alkylaminocarbonyl group, di(C₁-C₆) alkylaminocarbonyl group in which the (C₁-C₆) alkyl groups may be same or different, mono(C₁-C₆) alkylaminothiocarbonyl group, di(C₁-C₆) alkylaminothiocarbonyl group

in which the (C₁-C₆) alkyl groups may be same or different, di(C₁-C₆) alkoxyphosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxythiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkyl group, substituted phenyl (C₁-C₄) alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group,

halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group); and r represents an integer of 1 to 4); further, R¹ and R² may be taken conjointly to form 4- to 7-membered rings which may be intercepted by 1 to 3, same or different oxygen atom, sulfur atom or nitrogen atom;

X, which may be same or different, represents halogen atom, cyano group, nitro group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ [in this formula, A² represents -O-, -S-, -SO-, -SO₂-, -NR⁸- (in this formula R⁸ represents hydrogen atom, C₁-C₆ alkyl-

carbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, phenylcarbonyl group, substituted phenylcarbonyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkoxy carbonyl group or substituted phenyl C₁-C₄ alkoxy carbonyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group), -C(=O)-, -C(=NOR⁶)- (in this formula, R⁶ is as defined above), C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and

(1) in cases where A² represents -O-, -S-, -SO-, -SO₂- or -NR⁸- (in this formula, R⁸ is as defined above), R⁷ represents hydrogen atom, halo C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkenyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of

halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A³-R⁹ (in this formula, A³ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₃-C₆ alkenylene group, halo C₃-C₆ alkenylene group, C₃-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R⁹ represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxycarbonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or

-A⁴-R¹⁰ (in this formula, A⁴ represents -O-, -S-, -SO-, -SO₂- or -C(=O)-; and R¹⁰ represents C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group));

(2) in cases where A² represents -C(=O)- or -C(=NOR⁶)- (in this formula, R⁶ is as defined above), R⁷ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₂-C₆ alkenyl group, halo C₂-C₆ alkenyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, C₁-C₆ alkylthio group,

mono(C_1-C_6) alkylamino group, di(C_1-C_6) alkylamino group in which the (C_1-C_6) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenylamino group, substituted phenylamino group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group; and

(3) in cases where A^2 represents C_1-C_6 alkylene group, halo C_1-C_6 alkylene group, C_2-C_6 alkenylene group, halo C_2-C_6 alkenylene group, C_2-C_6 alkynylene group or halo C_3-C_6 alkynylene group, R^7 represents hydrogen atom, halogen atom, C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, C_1-C_6 alkoxy carbonyl group, tri(C_1-C_6) alkylsilyl group in which the (C_1-C_6) alkyl groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, or $-A^5-R^{11}$ (in this formula, A^5 represents $-O-$, $-S-$, $-SO-$ or $-SO_2-$; and R^{11} represents C_3-C_6 cycloalkyl group, halo C_3-C_6 cycloalkyl group, phenyl group, substituted phenyl group having at least

one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A⁶-R¹² (in this formula, A⁶ represents C₁-C₆ alkylene group, halo C₁-C₆ alkylene group, C₂-C₆ alkenylene group, halo C₂-C₆ alkenylene group, C₂-C₆ alkynylene group or halo C₃-C₆ alkynylene group; and R¹² represents hydrogen atom, halogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom,

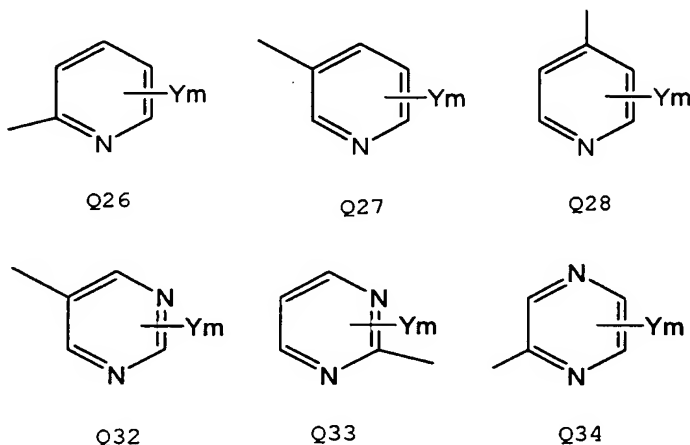
C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenoxy group, substituted phenoxy group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, phenylthio group, substituted phenylthio group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6

alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group)]];

n represents an integer of 0 to 4; further, X may be taken conjointly with the adjacent carbon atom on the phenyl ring to form a fused ring (as used herein, the term fused ring means naphthalene, tetrahydronaphthalene, indene, indane, quinoline, quinazoline, chroman, isochroman, indole, indoline, benzodioxane, benzodioxole, benzofuran, dihydrobenzofuran, benzothiophene, dihydrobenzothiophene, benzoxazole, benzothiazole, benzimidazole or indazole), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group

is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkylsulfonyl group and halo C_1-C_6 alkylsulfonyl group;

Q is an optionally substituted, heterocyclic or fused heterocyclic group represented by one of the following formulas Q26 to Q28 and Q32 to Q34;



(in these formulas, Y, which may be same or different, represents halogen atom, cyano group, nitro group, halo C_3-C_6 cycloalkyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C_1-C_6 alkyl group, halo C_1-C_6 alkyl group, C_1-C_6 alkoxy group, halo C_1-C_6 alkoxy group, C_1-C_6 alkylthio group, halo C_1-C_6 alkylthio group, C_1-C_6 alkylsulfinyl group, halo C_1-C_6 alkylsulfinyl group, C_1-C_6 alkyl-

sulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -A²-R⁷ (in this formula, A² and R⁷ are as defined above); m represents an integer of 0 to 4;

alternatively, Y may be taken conjointly with adjacent carbon atom on the ring to form a fused ring (the fused ring is as defined above), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio

group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group; and

Z¹ and Z² represent oxygen atom or sulfur atom.

7. An agricultural insecticide according to Claim 6, wherein R¹, R² and R³, which may be same or different, represent hydrogen atom, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group or -A¹ -(G)_r (in this formula, A¹ represents C₁-C₆ alkylene group, C₃-C₆ alkenylene group or C₃-C₆ alkynylene group; G, which may be same or different, represents hydrogen atom, halogen atom, cyano group, nitro group, halo C₁-C₆ alkyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxycarbonyl group, di(C₁-C₆) alkoxyphosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxythiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different,

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diphenylphosphino group, diphenylphosphono group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (as used herein, the term "heterocyclic group" means pyridyl group, pyridine-N-oxide group, pyrimidinyl group, furyl group, tetrahydrofuryl group, thienyl group, tetrahydrothienyl group, tetrahydropyranyl group, oxazolyl group, isoxazolyl group, oxadiazolyl group, thiazolyl group, isothiazolyl group, thiadiazolyl group, imidazolyl group, triazolyl group or pyrazolyl group), substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, or -Z³-R⁴ (in this formula, Z³ represents -O-, -S-, -SO-, -SO₂-, -N(R⁵)- (in this formula, R⁵ represents hydrogen atom, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxycarbonyl group, phenylcarbonyl group,

C^2
cont

Sample	Time (min)	Temperature (°C)	Pressure (atm)	Flow Rate (L/min)	Concentration (g/L)	Yield (%)	Quality (%)
1	10	100	1.0	1.0	1.0	95	98
2	20	100	1.0	1.0	1.0	90	95
3	30	100	1.0	1.0	1.0	85	90
4	40	100	1.0	1.0	1.0	80	85
5	50	100	1.0	1.0	1.0	75	80
6	60	100	1.0	1.0	1.0	70	75
7	70	100	1.0	1.0	1.0	65	70
8	80	100	1.0	1.0	1.0	60	65
9	90	100	1.0	1.0	1.0	55	60
10	100	100	1.0	1.0	1.0	50	55
11	110	100	1.0	1.0	1.0	45	50
12	120	100	1.0	1.0	1.0	40	45
13	130	100	1.0	1.0	1.0	35	40
14	140	100	1.0	1.0	1.0	30	35
15	150	100	1.0	1.0	1.0	25	30
16	160	100	1.0	1.0	1.0	20	25
17	170	100	1.0	1.0	1.0	15	20
18	180	100	1.0	1.0	1.0	10	15
19	190	100	1.0	1.0	1.0	5	10
20	200	100	1.0	1.0	1.0	0	0

sulfonyl group and halo C₁-C₆ alkylsulfonyl group), and R⁴ represents hydrogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ alkenyl group, halo C₃-C₆ alkenyl group, C₃-C₆ alkynyl group, halo C₃-C₆ alkynyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy C₁-C₆ alkyl group, C₁-C₆ alkylthio C₁-C₆ alkyl group, formyl group, C₁-C₆ alkylcarbonyl group, halo C₁-C₆ alkylcarbonyl group, C₁-C₆ alkoxy carbonyl group, mono(C₁-C₆) alkylaminocarbonyl group, di(C₁-C₆) alkylaminocarbonyl group in which the (C₁-C₆) alkyl groups may be same or different, mono(C₁-C₆) alkylaminothiocarbonyl group, di(C₁-C₆) alkylaminothiocarbonyl group in which the (C₁-C₆) alkyl groups may be same or different, di(C₁-C₆) alkoxyphosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, di(C₁-C₆) alkoxythiophosphoryl group in which the (C₁-C₆) alkoxy groups may be same or different, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenyl C₁-C₄ alkyl group, substituted phenyl (C₁-C₄) alkyl group having, on the ring thereof, at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆

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alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group); and r represents an integer of 1 to 4); further, R¹ and R² may be taken conjointly to form 4- to 7-membered rings which may be intercepted by 1 to 3, same or different oxygen atom, sulfur atom or nitrogen atom;

X, which may be same or different, represents halogen atom, cyano group, nitro group, amino group, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₃-C₆ cycloalkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, mono(C₁-C₆) alkyl-amino group, di(C₁-C₆) alkylamino group in which the (C₁-C₆) alkyl groups may be same or different, C₁-C₆

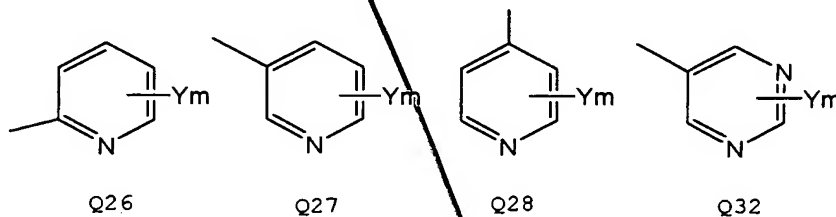
alkylcarbonylamino group, halo C₁-C₆ alkylcarbonylamino group, C₁-C₆ alkoxy carbonyl group, or tri(C₁-C₆) alkylsilylethynyl group in which the (C₁-C₆) alkyl groups may be same or different; and n represents an integer of 0 to 4; further, X may be taken conjointly with the adjacent carbon atom on the phenyl ring to form a fused ring (as used herein, the term fused ring means naphthalene, tetrahydronaphthalene, indene, indane, quinoline, quinazoline, chroman, isochroman, indole, indoline, benzodioxane, benzodioxole, benzofuran, dihydrobenzofuran, benzothiophene, dihydrobenzothiophene, benzoxazole, benzothiazole, benzimidazole or indazole), and said fused ring may have at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), and substi-

C₂
C₁C₁-C₆ alkyl group

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tuted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group;

Q represents an optionally substituted, heterocyclic or fused heterocyclic group represented by one of the following formulas Q26, Q27, Q28 and Q32:



(in these formulas, Y, which may be same or different, represents halogen atom, cyano group, nitro group, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, halo C₃-C₆ cycloalkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, halo C₁-C₆ alkoxy halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group, halo C₁-C₆ alkylsulfonyl group, phenyl group, substituted phenyl group having at least one, same or different substituents selected from the group consist-

C² only

ing of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, phenoxy group, substituted phenoxy group having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group, heterocyclic group (the term heterocyclic group is as defined above), or substituted heterocyclic group (the term heterocyclic group is as defined above) having at least one, same or different substituents selected from the group consisting of halogen atom, C₁-C₆ alkyl group, halo C₁-C₆ alkyl group, C₁-C₆ alkoxy group, halo C₁-C₆ alkoxy group, C₁-C₆ alkylthio group, halo C₁-C₆ alkylthio group, C₁-C₆ alkylsulfinyl group, halo C₁-C₆ alkylsulfinyl group, C₁-C₆ alkylsulfonyl group and halo C₁-C₆ alkylsulfonyl group; and m represents an integer of 0 to 4;

alternatively, Y may be taken conjointly with adjacent carbon atom on the ring to form a fused ring (the fused ring is as defined above), and said fused ring may have at least one, same or different substituents selected from the group consisting of

[illegible]

A mem.
B¹

~~8. A method for using an agrohorticultural insecticide characterized by treating an objective crop or applying to soil with an effective quantity of an~~

contd.
B1

agrohorticultural insecticide according to any one of
Claims 5, 6 and 7 for the purpose of controlling
~~noxious~~ organisms doing harm to useful crops.

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